

# Networking Control Board Model Number CB-6970

VIA® C7<sup>™</sup>/Eden<sup>™</sup> Networking Control Board with Four 100/10 LAN

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### **User's Manual**

Version 1.1

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### **Chapter 1. General Information**

#### **1.1 Introduction**

The CB-6970 is a networking control board based on VIA architecture with CN700+VT8237R+ chipset supporting the  $C7^{TM}$ /Eden<sup>TM</sup> CPU with 400MHz FSB.

The CB-6970 is equipped with four 10/100Mbps LAN ports, with two LAN ports bypass function. It is designed for SMB/SOHO segment, suitable for Firewall, VPN, Load Balancing, IPS, IDS, etc.

#### **1.2 Specification**

- CPU: VIA C7<sup>TM</sup>/Eden<sup>TM</sup> low power processor
- BIOS: Award® 4Mb Flash BIOS
- Chipset: VIA CN700 + VT8237R+
- I/O Chipset: Winbond® 83627HG
- Memory: One 240pin DDR II DIMM socket can support up to 1GB
- Enhanced IDE: One 40-pin IDE connector
- Serial port: Two RS-232 serial ports
- KB/Mouse: Supports PS/2 keyboard and mouse
- USB: Support two USB2.0/1.1 ports
- Mini PCI Expansion: One Mini PCI socket
- Display: Support CRT
- Ethernet: Four Intel® 82551ER or Realtek® 8139CL+ 10/100Mbps
- Bypass: Support two Ethernet LAN ports bypass function
- Digital I/O: Four digital input and four digital output
- SSD interface: One 50-pin CompactFlash<sup>™</sup> TYPE II socket
- Watchdog timer: Can generate a system reset, support software selectable timeout interval
- System Monitoring: Built in W83627HG; support temperatures, fan speed, voltage monitoring function
- Power supply voltage: Single +12V (11.4V to 12.6V) power supply
- Max. Power Requirements: 80W
- Operating temperature: 32 to  $140^{\circ}F$  (0 to  $60^{\circ}C$ )
- Board size: 8"(L) x 5.75"(W) (203mm x 146mm)

### **1.3 Order Information**

We offer various combination of CB-6970 control board according to CPU speed,

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LAN chip, bypass function. They can match various needs from the market.

Model	Description		
	VIA C7 <sup>™</sup> 1.5GHz Processor/Four Intel® 82551ER LAN/Bypass function on		
CB-6970A-150	two LAN ports		
	Limitation: Without PXE function, with RAID function		
CP 6070P 100	VIA C7 <sup>™</sup> 1.0GHz Processor/Four Intel® 82551ER LAN, w/o bypass function		
CB-0970B-100	Limitation: Without PXE function, with RAID function		
	VIA Eden <sup>™</sup> (V4) 400MHz Processor/Four Realtek® 8139CL+ LAN, w/o		
CB-6970C-040	bypass function		
	Limitation: with PXE function, without RAID function (only SATA IDE)		

#### 1.4 Package

Please make sure that the following items have been included in the package before installation.

- 1. CB-6970 Control Board
- 2. Quick Installation Guide (Optional)
- 3. Cables (Optional)
- 4. CD-ROM that contains the following folders:
- (1) Manual
- (2) System Driver
- (3) Ethernet Driver
- (4) Utility Tools

If any item of above is missing or damaged, please contact your dealer or retailer from whom you purchased the CB-6970. Keep the box and carton when you probably ship or store CB-6970 in near future. After you unpack the goods, inspect and make sure the packaging is intact. Do not plug the power adapter to the main board of CB-6970 if you already find it appears damaged.

Note: Keep the CB-6970 in the original packaging until you start installation.

#### **1.5 Precautions**

Please make sure you properly ground yourself before handling the CB-6970 control board or other system components. Electrostatic discharge can be easily damage the CB-6970 control board.

Do not remove the anti-static packing until you are ready to install the CB-6970

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control board.

Ground yourself before removing any system component from it protective anti-static packaging. To ground yourself, grasp the expansion slot covers or other unpainted parts of the computer chassis.

Handle the CB-6970 control board by its edges and avoid touching the components on it.

#### **1.6 Board Layout**



#### **1.7 Board Dimension**



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### **Chapter 2. Connector/Jumper Configuration**

### 2.1 Connector/Jumper Location and Definition



Connector	Description	Connector	Description
CN1	External Power Jack	CN14	MINIPCI
CN2	LAN1 RJ-45 Connector	CN15	IDE Power Connector
CN3	LAN2 RJ-45 Connector	CN16	Fan Connector
CN4	LAN3 RJ-45 Connector	CN17	SATA Connector
CN5	LAN4 RJ-45 Connector	CN18	SATA Connector
CN6	COM Port (D-Sub)	CN19/20/21	Fan Connector
CN7	Reset Button	CN22	LAN LED Header
CN8	Internal Power Jack	CN23	Manufacturer Default Using
CN9	USB Connector	JP1	BY PASS / WATCH DOG SELECT
CN10	COM Port Pin Header	JP2	BY PASS Mode Select
CN11	USB Pin Header	JP3	CF Master/Slave Select
CN12	VGA Pin-header (2mm)	JP4	Clear CMOS
CN13	KB/MS Pin-header	JP5	CPU FSB Select

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#### **2.2 Onboard Processor**

The CB-6970 can be VIA C7/ Eden nanobga2 packaging processors onboard. The CPU is with 400MHz FSB and provides better performance. We offer two options of VIA C7 1.5GHz or Eden 400MHz CPU.

#### 2.3 Connector and Jumper Setting

#### **CN1: External Power Jack**



#### CN2~CN5: LAN RJ-45 Connector

D2 D1			
Pin		Define	
1	TX+		
2	TX-		
3	RX+		
4	Chassis Ground		
5	Chassis Ground		
6	i RX-		
7	Chassis Ground		
8	Chassis Ground		
D1 :Link/Activity LED			
Link	Link YELLOW		
Activ	Activity BLINKING		
D2: Speed indicated LED			
10 Mbps DIM			
100 Mbps GREEN			

#### CN6: COM Port (D-Sub)

Pin Signal
1 DCD
2 RXD
3 TXD
4 DTR
5 Ground
6 DSR
7 RTS
8 CTS
9 RI

#### **CN7: Reset Button**

00	
1 2	
Pin	Define
1	Reset #
2	GND

#### **CN8: Internal Power Jack**

0 0 2 1	
Pin	Define
1	+12V
2	Ground

#### **CN9: USB Connector**

1	4		
Pin	Define		
1 +5V			
2 Data0-			
3	3 Data1+		
4	Ground		

#### **CN10: COM Port Pin Header**

	1 0 2 0 3 0 4 0 5 0	0 6 0 7 0 8 0 9 0 10	
Pin	Define	Pin	Define
1	DCD#	6	DSR#
2	RXD#	7	RTS#
3	TXD#	8	CTS#
4	DTR#	9	RI#2
5	Ground	10	NC

#### **CN11: USB Pin Header**



#### **CN12: VGA Pin Header**

$ \begin{array}{c c} 2 & 16 \\ \hline \bullet \bullet$				
Pin	Define	Pin	Define	
1	RED	2	Green	
3	Blue	4	NC	
5	GND	6	GND	
7	GND	8	GND	
9	NC	10	GND	
11	NC	12	DCC DATA	
13	HSYNC	14	VSYNC	
15	DCC CLOCK	16	NC	

#### **CN13: KB/MS Pin Header**

	$ \begin{array}{c} 1 \\ 3 \\ 5 \\ 7 \\ 9 \\ \end{array} $	0 2 0 4 0 6 0 8	
Pin	Define	Pin	Define
1	KCLK	2	MCLK
3	KDAT	4	MDAT
5	NC	6	NC
7	PS2_GND	8	PS2_GND
9	PS2_VCC	10	PS2_VCC

#### CN14: Mini PCI

12	3 121	3	31
12	24 122	4	12
Pin	Define	Pin	Define
1	TIP	2	RING
3	8PMJ-33	4	8PMJ-13
5	8PMJ-63	6	8PMJ-23
7	8PMJ-73	8	8PMJ-43
9	8PMJ-83	10	8PMJ-53
11	LED1_GRNP	12	LED2_YELP
13	LED1_GRNN	14	LED2_YELN
15	CHSGND	16	RESERVED
17	INTA#	18	5V
19	3.3V	20	INTC#
21	REG#1	22	GNT#1
23	GND	24	3.3VAUX
25	CLK1	26	RST#
27	GND	28	3.3V
29	REG#0	30	GNT#0
31	3.3V	32	GND
33	AD{31}	34	PME#
35	AD{29}	36	CLK2

37	GND	38	AD{30}
39	AD{27}	40	3.3V
41	AD{25}	42	AD{28}
43	RESERVED	44	AD{26}
45	C/BE[3]#	46	AD{24}
47	AD{23}	48	IDSEL
49	GND	50	GND
51	AD{21}	52	AD{22}
53	AD{19}	54	AS{20}
55	GND	56	PAR
57	AD{17}	58	AD{18}
59	C/BE[2]#	60	AD[16]
61	IRDY#	62	GND
63	3.3V	64	FRAME#
65	CLKRUN#	66	TRDY#
67	SERP#	68	STOP#
69	GND	70	3.3V
71	PERP	72	DEVSEL#
73	CB/E[1]	74	GND
75	AD[14]	76	AD[15]
77	GND	78	AD[13]
79	AD[12]	80	AD[11]
81	AD[10]	82	GND
83	GND	84	AD[09]
85	AD[06]	86	C/BE[0]#
87	AD[07]	88	3.3V
89	3.3V	90	AD[06]
91	AD[05]	92	AD[04]
93	RESERVED	94	AD[02]
95	AD[03]	96	AD[00]
97	5V	98	RESERVED_
			WIP4
99	AD[01]	100	RESERVED_
			WIP4
101	GND	102	GND
103	AC_SYNC	104	M66EN
105	AC_SDATA_IN	106	AC_SDATA_
			OUT

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107	AC_BIT_CLK	108	AC_CODEC_
			ID0#
109	AC_CODEC_	110	AC_RESET#
	ID1#		
111	MOD_AUDIO_	112	RESERVED
	MOD		
113	AUDIO_GND	114	GND
115	SYS_AUDIO_	116	SYS_AUDIO_
	OUT		IN
117	SYS_AUDIO_	118	SYS_AUDIO_
	OUT G		IN G
119	AUDIO_GND	120	AUDIO_GND
121	RESERVED	122	MPCIACT#
123	VCC5VA	124	3.3VAUX

#### **CN15: IDE Power Connector**

Pin	Define	Pin	Define	
1	+12V	2	GND	
3	GND	4	+5V	

#### CN16, 19, 20, 21: Fan Connector

Pin	Define			
1	Ground			
2	+12V			
3	Speed Detect			

#### CN17, 18: SATA Connector

01	Pin	Define
	1	Ground
0	2	TXP
4	3	TXN
	4	Ground
O°	5	RXN
0/	6	RXP
	7	Ground

#### **CN22: LAN LED Header**

1	2		
3	4		
5	6		
7	8		
9	10		
11	12		
13	14		
15	16		
Dia	Define	Din	Define
PIN	Denne	FIII	Denne
PIN 1	PRO	2	SPEED0
PIN 1 3	PRO ACTIVE0	2 4	SPEED0 LINK0
Pin 1 3 5	PRO ACTIVE0 RP1	2 4 6	SPEED0 LINK0 SPEED1
Pin 1 3 5 7	PRO ACTIVE0 RP1 ACTIVE1	2 4 6 8	SPEED0 LINK0 SPEED1 LINK1
Pin 1 3 5 7 9	PRO ACTIVE0 RP1 ACTIVE1 RP2	2 4 6 8 10	SPEED0 LINK0 SPEED1 LINK1 SPEED2
PIN 1 3 5 7 9 11	PRO ACTIVE0 RP1 ACTIVE1 RP2 ACTIVE2	2 4 6 8 10 12	SPEED0 LINK0 SPEED1 LINK1 SPEED2 LINK2
PIN 1 3 5 7 9 11 13	PRO ACTIVE0 RP1 ACTIVE1 RP2 ACTIVE2 RP3	2 4 6 8 10 12 14	SPEED0 LINK0 SPEED1 LINK1 SPEED2 LINK2 SPEED3

#### **CN23: Manufacturing Default Using** Setting by manufacturer.

#### JP1: Bypass/Watch Dog Select

Pin		Setting
1 3	1-2	Bypass Mode (Default)
1 3	2-3	Watchdog

#### JP2: Bypass Mode Select

Pin		Setting
1 3 🗆	1-2	Bypass Always Enabled
1 3	2-3	Normal (Default)

#### JP3: CF Master/Slave Select

Pin		Setting
1 2	Close	Master
1 .	Open	Slave

#### JP4: Clear CMOS

Pin		Setting
1 <b>1</b> 3 □	1-2	Hold Data (Default)
	2-3	Clear CMOS

#### JP5: CPU FSB Select

Pin		Setting
1 3 □	1-2	533MHz
1 🖸 3 🖥	2-3	400MHz

### 2.4 CompactFlash<sup>TM</sup> Socket Pin Assignment

CompactFlash<sup>™</sup> card is a small removable mass storage device. It can provide complete PCMCIA-ATA functionality and compatibility plus True IDE functionality compatible with ATA/ATAPI-4.

CompactFlash<sup>™</sup> storage products are solid state form factor, it means they contain no moving parts. Thus, it provides users with much greater protection of the data than conventional magnetic disk device.

Pin	Assignment								
1	Ground	11	Ground	21	D00	31	D15	41	RESET
2	D03	12	Ground	22	D01	32	CS	42	ORDY
3	D04	13	VCC	23	D02	33	NC	43	DREG
4	D05	14	Ground	24	WP	34	IOR	44	DACK
5	D06	15	Ground	25	NC	35	IOW	45	LED
6	D07	16	Ground	26	NC	36	WE	46	BVD
7	CS	17	Ground	27	D11	37	RDY/BSY	47	D08
8	Ground	18	A02	28	D12	38	VCC	48	D09
9	Ground	19	A01	29	D13	39	SCSE	49	D10
10	Ground	20	A00	30	D14	40	NC	50	Ground



### Chapter 3. BIOS Setup

The ROM chip of your CB-6970 board is configured with a customized Basic Input/Output System (BIOS) from Phoenix-Award BIOS. The BIOS is a set of permanently recorded program routines that give the system its fundamental operational characteristics. It also tests the computer and determines how the computer reacts to instructions that are part of programs.

The BIOS is made up of code and programs that provide the device-level control for the major I/O devices in the system. It contains a set of routines (called POST, for Power-On Self Test) that check out the system when you turn it on. The BIOS also includes CMOS Setup program, so no disk-based setup program is required CMOS RAM stores information for:

- Date and time
- Memory capacity of the main board
- Type of display adapter installed
- Number and type of disk drives

The CMOS memory is maintained by battery installed on the CB-6970 board. By using the battery, all memory in CMOS can be retained when the system power switch is turned off. The system BIOS also supports easy way to reload the CMOS data when you replace the battery of the battery power lose.

#### 3.1 Quick Setup

In most cases, you can quickly configure the system by choosing the following main menu options:

- 1. Choose "Load Optimized Defaults" from the main menu. This loads the setup default values from the BIOS Features Setup and Chipset Features Setup screens.
- 2. Choose "Standard COS Features" from the main menu. This option lets you configure the date and time, hard disk type, floppy disk drive type, primary display and more.
- 3. In the main menu, press F10 ("Save & Exit Setup") to save your changes and reboot the system.

#### **3.2 Entering the CMOS Setup Program**

Use the CMOS Setup program to modify the system parameters to reflect the options installed in your system and to customize your system. For example, you should run the Setup program after you:

- Received an error code at startup
- Install another disk drive
- Use your system after not having used it for a long time
- Find the original setup missing
- Replace the battery
- Change to a different type of CPU
- Run the Phoenix-Award Flash program to update the system BIOS

Run the CMOS Setup program after you turn on the system. On-screen instructions explain how to use the program.

#### $\prod$ Enter the CMOS Setup program's main menu as follows:

- Turn on or reboot the system. After the BIOS performs a series of diagnostic checks, the following message appears: "Press DEL to enter SETUP"
- Press the <DEL> key to enter CMOS Setup program. The main menu appears:

Phoenix - AwardBIOS CMOS Setup Utility				
► Standard CMOS Features	► Frequency/Voltage Control			
► Advanced BIOS Features	Load Fail-Safe Defaults			
► Advanced Chipset Features	Load Optimized Defaults			
► Integrated Peripherals	Set Supervisor Password			
▶ Power Management Setup	Set User Password			
► PnP/PCI Configurations	Save & Exit Setup			
▶ PC Health Status	Exit Without Saving			
Esc : Quit F9 : Menu in BIOS $\uparrow \downarrow \rightarrow \leftarrow$ : Select Item F10 : Save & Exit Setup				
Time, Date, Hard Disk Type				

3. Choose a setup option with the arrow keys and press <Enter>. See the following sections for a brief description of each setup option.

In the main menu, press F10 ("Save & Exit Setup) to save your changes and reboot the system. Choosing "EXIT WITHOUT SAVING" ignores your changes and exits the program. Pressing <ESC> anywhere in the program returns you to the main menu.

#### 3.3 Menu Options

The main menu options of the CMOS Setup program are described in the following and the following sections of this chapter.

#### STANDARD CMOS FEATURES:

Configure the date & time, hard disk drive type, floppy disk drive type, primary display type and more

#### ADVANCED BIOS FEATURES:

Configure advanced system options such as enabling/disabling cache memory and shadow RAM

#### ADVANCED CHIPSET FEATURES:

Configure advanced chipset register options such DRAM timing

#### **INTEGRATED PERIPHERALS:**

Configure onboard I/O functions

#### **POWER MANAGEMENT SETUP:**

Configure power management features such as timer selects

#### **PNP/PCI CONFIGURATION:**

Configure Plug & Play IRQ assignments and PCI slots

#### PC HEALTH STATUS:

Configure the CPU speed and, if the optional system monitor IC is installed, view system information

#### FREQUENCY / VOLTAGE CONTROL:

Configure the CPU and PCI clock, if the optional system monitor IC is installed, view system information

#### LOAD FAIL-SAFE DEFAULT:

Loads BIOS default values. Use this option as diagnostic aid if your system behaves erratically

#### LOAD OPTIMIZED DEFAULTS:

Loads optimized BIOS settings

#### SET SUPERVISORS & USER PASSWORD:

Configure the system so that a password is required when the system boots or you attempt to enter the CMOS setup program. When you log in with this password, you will be able to enter the CMOS Setup main menu, but you can not enter other menus in the CMOS Setup program.

#### SAVE & EXIT SETUP:

Save changes of values to CMOS and exit the CMOS setup program

#### EXIT WITHOUT SAVING:

Abandon all CMOS changes and exit the CMOS setup program

#### **3.4 Standard CMOS Features Setup**

#### $\bigcup$ Use the Standard CMOS Setup option as follows:

1. Choose "Standard CMOS Features" from the main menu. The following screen appears:

Phoenix - AwardBIOS CMOS Setup Utility Standard CMOS Features					
Date (mm:dd:yy) Time (hh:mm:ss) → IDE Channel 0 Master → IDE Channel 0 Slave → IDE Channel 1 Master → IDE Channel 1 Slave	Mon, Apr 10 <mark>2006</mark> 11 : 9 : 51	Item Help Menu Level → Change the day, month, year and century			
Video Halt On Base Memory Extended Memory Total Memory	[EGA/VGA] [All , But Keyboard] 640K 65472K 1024K				
†↓++:Move Enter:Select F5: Previous Values	+/-/PU/PD:Value F1D:Save F6: Fail-Safe Defaults	ESC:Exit F1:General Help F7: Optimized Defaults			

2. Use the arrow keys to move between fields. Modify the selected field using the

PgUP/PgDN/+/- keys. Some fields let you enter numeric values directly.

Option	Description
Date (mm:dd:yy)	Type the current date
Time	Type the current time (24-hour clock)
(hour:min:sec)	
IDE channel	Select from "Auto", "User", or "None"
	If your drive is not one of the predefined types, choose "User"
	and enter the following drive specifications:
	Cylinders, heads, Wpcom, L-Zone, sectors, and mode
	Consult the documentation received with the drive for the values
	that will give you optimum performance.
Video	Select the default video device: EGA/VGA, CGA 40, CGA 80,
	Mono
Halt On	Select the situation what you want BIOS to stop power on self
	test process and notice you.
	Choose: <all errors=""> <no all="" errors=""> <but (default)="" keyboard=""></but></no></all>
	<all, but="" diskette=""> <all, but="" disk="" key=""></all,></all,>

3. After you have finished with the Standard CMOS Features program, press the <ESC> key to return to the main menu.

#### **3.5 Advanced BIOS Features Setup**

 $\iint$  Use the Advanced BIOS Features Setup option as follows:

1. Choose "Advanced BIOS Features Setup" from the main menu. The following screen appears:

Phoenix - AwardBIOS CMOS Setup Utility Advanced BIOS Features					
→ Hard Disk Boot Priority Virus Warning Quick Power On Self Test First Boot Device Boot Device Boot Other Device Boot Other Device Boot Other Device Boot Other Device Boot Up NumLock Status Gate A20 Option Typematic Rate Setting X Typematic Rate (Chars/Sec) Security Option MPS Version Control For OS[1.4] OS Select For DRAM > 64MB Console Redirection Baud Rate Agent Connect via MPSU First Security Boot Other Device Console Redirection Baud Rate Agent wait time(min) [Disabled] [Disabled] [NULL] [NULL] [Disabled] [NULL] [NULL] [Disabled] [NULL] [Disabled] [NULL] [Disabled] [NULL] [Disabled] [NULL] [Disabled]		Item Help Menu Level → Select Hard Disk Boot Device Priority			
↑↓++:Move Enter:Select +/-/PU/PD:Value F10:S E5: Previous Values	ave E	SC:Exit F1:General Help 7: Antimized Defaults			

2. Use the arrow keys to move between items and to select values. Modify the selected fields using the PgUP/PgDN keys. Press the <F1> "Help" key for information on the available options:

Option	Description			
Hard Disk Boot Priority	Set up the hard disk boot sequence.			
Virus Warning	When enabled, anything attempts to access the			
	boot sector and partition table, the BIOS will show			
	a warning message on screen and alarm beep.			
	The default setting is Disabled.			
Quick Power On Self Test	Skip some checking items and speed up the power			
	on process.			
First/Second/Third Boot Device	The BIOS attempts to load the operating system			
	from the devices in the sequence selected in these			
	items. Choose: HDD-0, LS-120, USB FDD			
Boot Other Device	Set up other device to be bootable.			
Boot Up NumLock Status	Select power on status of NumLock.			
Gate A20 Option	Gate A20 is a device used to address memory			
	above 1 MB.			
	Fast (Default): Select chipset controller to control			
	Gate 20.			
	Normal: Select Keyboard controller to control Gate			
	20.			
Typematic Rate Setting	The rate to click the keyboard is defined by			
	keyboard controller. When enabled, you can			
	configure the Typematic Rate and Typematic			

	Delay. The default is Disabled.
	X Typematic Rate: Set the rate keyboard can
	repeat per second, from 6~30 char/sec.
	X Typematic Delay: Set the delay time before
	keyboard can repeat, from 250~1000ms.
Security Option	Select whether the password is required for
	system boot or enter Setup menu.
	X System: the system will not boot and not access
	Setup menu if the password is wrong.
	X Setup: the system can boot, but not allow to
	access Setup menu if the password is wrong.
MPS Version Control For OS	Select 1.1, 1.4. Default is 1.4.
OS Select for DRAM > 64MB	Select OS/2 if your system is using OS/2 and has
	a memory size of more than 64MB. Default is
	Non-OS2.
Console Redirection	Choose <enabled> allowing connecting the server</enabled>
	of hyper terminal to monitor client side. It has to
	be worked under DOS mode, and the client
	terminal doesn't need graphic function.
Baud Rate	The data transfer rate (bit per second) to agent.
	Choose 9600/19200/38400/57600/115200 item.
Agent Connect via	Select <null> to let agent connect directly.</null>
Agent wait time (min)	Agent negotiate time, choose 1/2/4/8 min.
Agent after boot	Choose <enabled> for agent to administrate the</enabled>
	system after boot.
Video BIOS Shadow	Choose <enabled> to change the Video BIOS</enabled>
	location from ROM to RAM. Video shadow will
	enhance the Video speed.
Full Screen Logo Show	Allow to display the full screen logo when boot up.

### 3.6 Advanced Chipset Features Setup

- $\iint$  Use the Advanced Chipset Features Setup option as follows:
- 1. Choose "Advanced Chipset Features Setup" from the main menu. The following screen appears;

Phoenix - AwardBIOS CMOS Setup Utility Advanced Chipset Features				
DRAM Clock/Drive Control [Press Enter]	Item Help			
<ul> <li>AGP &amp; P2P Bridge Control [Press Enter]</li> <li>CPU &amp; PCI Bus Control [Press Enter] Memory Hole [Disabled] System BIOS Cacheable [Enabled] Video RAM Cacheable [Disabled] Init Display First [PCI Slot]</li> </ul>	Menu Level →			
<pre>t+++:Move Enter:Select +/-/PU/PD:Value F10:S EF: Provide Union Ef: Eail Safe Default</pre>	ave ESC:Exit F1:General Help			

2. Move between items and select values by using the arrow keys. Modify the selected fields using the PnUP/PgDN Keys. For information on the various options, press

<F1> key .

Option	Description
DRAM Clock/Device Control	Select <by spd=""> or <auto by="" spd=""> to follow PC</auto></by>
	SDRAM Serial Presence Detect Specification.
	DRAM Clock <by spd=""></by>
	DRAM Timing < Auto By SPD>
AGP & P2P Bridge Control	Allow to allocate the system resource to AGP for
	video use.
CPU & PCI Bus Control	Allow to setup the ability for CPU and PCI bus.
Memory Hole	Select Enabled or Disabled. You can reserve this
	area of system memory for ISA adapter ROM.
	When this area is reserved, it can not be cached.
	The user information of peripherals that need to use
	this area of system memory usually discusses their
	memory requirement.
System BIOS Cacheable	Select Enabled or Disabled. When enabled,
	caching of the system BIOS at F0000h-FFFFFh,
	enhancing system performance. However, if any
	program writes to this memory area, a system error
	may result.
Video RAM Cacheable	Select Enabled or Disabled. When Enable this

	option to allow caching of the Video BIOS.			
Init Display First	Allow to choose the priority of PCI VGA card or			
	onboard. Default is <pci slot="">.</pci>			

#### **3.7 Integrated Peripherals**

### $\square$ Use the Integrated Peripherals Setup option as follows:

1. Choose "Integrated Peripherals Setup" from the main menu. The following screen appears:

Phoenix - AwardBIOS CMOS Setup Utility Integrated Peripherals				
▶ VIA OnChip IDE Device	[Press Enter]	Item Help		
<ul> <li>SuperIO Device BIOS Write Protect</li> </ul>	[Press Enter] [Disabled]	Menu Level →		

2. Move between items and select values by using the arrow keys. Modify the selected fields using the PgUP/PgDN keys. Please press the <F1> key for information on the various options.

Option	Description		
Onboard Device			
VIA OnChip IDE Device	Select and set up the SATA, IDE devices		
VIA OnChip PCI Device	Select and set up the PCI devices		
Super I/O Device	Select and set up the super I/O devices		
BIOS Write Protect	<enabled> not allow to write data into BIOS.</enabled>	The	
	default is <disabled>.</disabled>		

#### Super IO Device

Onboard Serial Port 1	3F8/IRQ4 · 2F8/IRQ3 · 3E8/IRQ4 · 2E8/IRQ3 · AUTO

Onboard Serial Port 2	3F8/IRQ4 · 2F8/IRQ3 · 3E8/IRQ4 ·	• 2E8/IRQ3 • AUTO

#### **3.8 Power Management Setup**

The Power Management Setup controls the board's "green" features. To save energy these features shut down the video display and hard disk drive.

### Use the Power Management Setup option as follows:

1. Choose "Power Management Setup" from the main menu. The following screen appears.

Phoenix - AwardBIOS CMOS Setup Utility Power Management Setup		
Power Management Option [User Define]	Item Help	
Suspend Mode [Disable] Video Off Option [Suspend -> Off] Video Off Method [V/H SYNC+Blank] Ac Loss Auto Restart [Off] > IRQ/Event Activity Detect [Press Enter]	Menu Level →	
†∔++:Move Enter:Select +/-/PU/PD:Value F10:Save F5: Previous Values F6: Fail-Safe Defaults	ESC:Exit F1:General Help F7: Optimized Defaults	

 Move between items and select values by using the arrow keys. Modify the selected field the PgUP/PgDN keys. For information on the various options, press <F1> key.

Option	Description
Power Management Option	This field allows you to select the type (or degree) of
	power saving by changing the length of idle time that
	elapses before the "Suspend Mode" and "HDD Power
	Down" field is activated. Min Saving Minimum power
	saving time for the " Suspend Mode" and "HDD Power
	Down" =15min.
	Max Saving Maximum power saving time for the
	"Suspend Mode" and "HDD Power Down"=1 min.

	User Define Allows you to set the power saving time in
	the "Suspend Mode" and "HDD Power Down" field.
HDD Power Down	This is selectable only when the power management
	filed is set to user define. When the system enters the
	HDD power down mode according to the power saving
	time selected, the hard disk drive will be powered
	down while all other devices remain active.
Suspend Mode	When the system enters the Suspend mode, the CPU
	and onboard peripherals will be shut off.
Video Off Option	Select power saving modes when the monitor is blank.
	Default is <suspend -=""> Off&gt;.</suspend>
Video Off Method	This determines the manner in which the monitor is
	blanked. V/H SYNC + Blank This selection will cause
	the system to turn off the vertical and horizontal
	synchronization ports and write blanks to the video
	buffer.
Ac Loss Auto Restart	The field defines how the system will act after an AC
	power loss during system. Select <off> will keep the</off>
	system in off status until press the power button.
	Select <on> will automatically power on when AC</on>
	power is back.
IRQ/Event Activities Detect	Allow to set IRQs that will reestablish the system from
	a power saving sleep mode.

3. After you have finished with the Power Management Setup, press the <ESC> key to return to the main menu.

#### **3.9 PNP/PCI Configuration**

This option is used to configure Plug and Play assignments and route PCI interrupts to designated ISA interrupts.

### $\iint$ Use the PNP/PCI Configuration Setup option as follows:

1. Choose "PNP/PCI Configuration Setup" from the main menu, the following screen appears.

PNP US Installed Reset Configuration Data Resources Controlled By * IRQ Resources PCI/VGA Palette Snoop Assign IRQ For VGA Assign IRQ For USB	[No] [Disabled] [Auto(ESCD)] Press Enter [Disabled] [Enabled] [Enabled]	Item Help Menu Level Select Yes if you are using a Plug and Play capable operating system Select No if you need the BIOS to configure non-boot devices
---	---	--

 Move between items and select values by using the arrow keys. Modify the selected fields using the PgUP/PgDN keys. For information on the various options, please press <F1> key.

Option	Description
PNP OS installed	NO: BIOS program will adjust all the set up by itself
	YES: When you install the system that support plug &
	play, press <yes></yes>
Reset Configuration Data	Enabled The BIOS will reset the Extended System
	Configuration Data (ESCD) once automatically. It will
	then recreate a new set of configure data
	Disabled The BIOS will not reset the configuration data
Resources Controlled By	Resources controlled by the Award plug and play BIOS
	has the capability to automatically configure all of the
	boot and plug and play compatible devices.
	Auto (ESCD) The system will automatically detect the
	settings for you.
	Manual choose the specific IRQ in the "IRQ Resources"
	field.
PCI/VGA Palette Snoop	This field determines whether the MPEG ISA/VESA VGA
	cards a work with PCI/VGA or not
	Enable MEPG ISA/VESA VGA cards work with PCI/VGA
	Disabled MPEG ISA/VESA VGA card does not work with
	PCI/VGA
Assign IRQ for VGA	Select Enabled/Disabled to specify whether the VGA

	uses on IRQ or not.
Assign IRQ for USB	Select Enabled/Disabled to specify whether the USB
	uses on IRQ or not.

3. Please press the <ESC> key to return the main menu after finishing with the PNP/PCI Configuration Setup.

#### 3.10 PC Health Status Configuration Setup

Choose "PC Health Status Configuration Setup" from the main menu, the following screen appears:

Phoenix - AwardBIOS CMOS Setup Utility PC Health Status		
CPU Warning Temperature [Disabled]	Item Help	
System Temperature CPU Temperature FAN1 Speed FAN2 Speed Vcore Vcop +3.30 + 5 V +12 V VBAT(V) SVSB(V)	Menu Level →	
↑↓++:Move Enter:Select +/-/PU/PD:Value F10:Sav F5: Previous Values F6: Fail-Safe Defaults	e ESC:Exit F1:General Help F7: Optimized Defaults	

Option	Description
CPU Warning Temperature	An alarm will beep when the CPU temperature is
	higher than the maximum limit. The default is
	<disabled> and alarm will not beep.</disabled>

#### **3.11 Frequency/Voltage Control**

The item enabled you to set up the clock speed and system bus for your system. The clock speed and system bus are determined by the kind of processor you have installed in the system.

Spread Spectrum	ead Spectrum [Disabled] Clock [100MHz]	Item Help
GIO GIOLK		Menu Level →
		U

Option	Description
Spread Spectrum	If you enable the item, it can significantly reduce the
	EMI (Electro-Magnetic Interference) generated by the
	system.
CPU Clock	Allow to adjust the CPU Clock.

#### **3.12 Load Fail-Safe Defaults**

This option loads the troubleshooting default values permanently stored in the BIOS ROM. This is useful if you are having problems with the main board and need to debug or troubleshoot the system. The loaded default settings do not affect the Standard CMOS Setup screen.



To use this feature, highlight it on the main screen and press <Enter>. A line will appear on the screen asking if you want to load the BIOS default values. Pres the <Y> key and then press <Enter> if you want to load the BIOS default.

#### **3.13 Load Optimized Defaults**

This option loads optimized settings stored in the BIOS ROM. The auto-configured settings do not affect the Standard CMOS Setup screen.



To use this feature, highlight it on the main screen and press <Enter>. A line will appear on the screen asking if you want to load the Optimized Default Values. Press the <Y> key and then press <Enter> if you want to load the SETUP default.

#### 3.14 Supervisor/User Password

The password options let you prevent unauthorized system boot-up or unauthorized use of CMOS setup. The Supervisor Password allows both system and CMOS Setup program access; the User Password allows access to the system and the CMOS Setup Utility main menu.

The password functions are disabled by default. You can use these options to enable a password function or, if a password function is already enabled, change the password.

To change a password, first choose a password option from the main menu and enter the current password. Then type your new password at the prompt. The password is case sensitive and you can use up to 8 alphanumeric characters. Press <Enter> after entering the password. At the Next Prompt, confirm the new password by typing it and pressing <Enter> again.



After you use this option to enable a password function, use the "Security Option" in "BIOS Feature Setup" to specify whether a password is required every time the system boots or only when an attempt is made to enter the CMOS Setup program.

#### 3.15 Save and Exit Setup

This function automatically saves all CMOS values before exiting Setup.

Phoenix - AwardBIOS	CMOS Setup Utility		
<ul> <li>Standard CMOS Features</li> <li>Advanced BIOS Features</li> <li>Advanced Chipset Features</li> <li>Integrated Peripherals</li> <li>Power Management</li> <li>PnP/PCI Configura</li> <li>PC Health Status</li> </ul>	▶ Frequency/Voltage Control Load Fail-Safe Defaults Load Optimized Defaults Set Supervisor Password sword EXIT (Y/N)? Y Setup Saving		
Esc : Quit F9 : Menu in BIOS ↑↓→← : Select Item F10 : Save & Exit Setup			
Save Data to CMOS			

#### **3.16 Exit Without Saving**

Use this function to exit Setup without saving the CMOS value.



### **Chapter 4. Utility & Driver Installation**

#### 4.1 Operation System Supporting

CB-6970 can support Windows® and Linux® operation system as follows. Before installation, please check your OS version. If your OS is not in the following list, please upgrade your OS version.

OS	Version
Windows®	Windows® 2000 SP4/Windows® XP SP2
Linux®	Fedora Core 2/Linux® 2.6 or above

#### 4.2 System Driver Installation

CB-6970 offers the system driver in the setup CD. Please install the driver follow the below procedures.

- 1. Insert the setup CD of CB-6970 into your CD-ROM drive.
- 2. Choose the Drivers/system file to click the Setup icon.
- 3. Click [Next] button.



4 Click [YES] button.

🛃 VIA Service Pack 4.56v	<u>_     ×</u>
VIA Service Pack 4.56v,	
VIA Service Pack README	
VIA Service Pack README. Press PAGE DOWN key to see the rest of document.	
VIA Hyperion VIA 4 in 1 Driver README.TXT	
VIA Service Pack (VIA 4 In 1) is Copyright(C) 2002 VIA Technologies, Inc.	
TABLE OF CONTENTS: About VIA Hyperion 4 in 1 Setting Up Update Technical Support	
Clicking Yes means you have read and agreed with the license agreement and README. Click No to decline and Exit	
< Back Yes No	

5. Choose <Normal Installation> to install all drivers. Click [Next] button.



6. Choose all setting. Click [Next] button.



7. Choose <Install VIA PCI IDE Bus Driver>. Click [Next] button.



8. Choose <Install AGP driver>. Click [Next] button.



9. Click [OK] button to finish the installation.



#### **4.3 LAN Driver Installation**

CB-6970 support Ethernet controlled by using Intel 82551ER® or Realtek® 8139CL+ chipset. Please install the driver follow the below procedures.

- 1. Insert the setup CD of CB-6970 into your CD-ROM drive.
- 3. Click the [Start] button.
- 4. Choose the [Setting] item.
- 5. Click the [Control Panel] item.
- 6. Select the [Systems] item to open the [System Properties] box.
- 7. Click the [Device Manager] tab.
- 8. Choose the [Network adapters] item.
- 9. Click the [Driver] tab.
- 10. Click the [Update Driver] button. Then the Update Device Driver Wizard will appears.
- 11. Click [Next] button.



12. Click [Next] button.

💂 Device Mana	ager	- D ×	
Action View			
Etherne	t Controller Properties		
Upgr	ade Device Driver Wizard		
	nstall Hardware Device Drivers A device driver is a software program that enables a hardware device to work with an operating system.		
	This wizard upgrades drivers for the following hardware device:		
	Upgrading to a newer version of a device driver may add functionality to or improve the performance of this device.		
	What do you want the wizard to do?		
+	Search for a suitable driver for my device (recommended)		
	C Display a list of the known drivers for this device so that I can choose a specific driver		
_	< Back Next > Cancel	<b>_</b>	
	Close Cancel ofiles		
	OK Cancel Apply		
🖁 Start 🛛 🚮	🍘 🖏 📗 🚇 Device Manager		🔝 📥 10:34 PM

13. Choose <Specify a location>, press [Next] button.

Device Manager	
Action View $\leftarrow \rightarrow \equiv \blacksquare \blacksquare \blacksquare \square \square$	
Ethernet Controller Properties	
Encate Driver Files     Where do you want Windows to search for driver files?	
Search for driver files for the following hardware device:	
terret Controller	
The wizard searches for suitable drivers in its driver database on your computer and in any of the following optional search locations that you specify.	
To start the search, click Next. If you are searching on a floppy disk or CD-ROM drive,	
Inset the hoppy task of Collection reading reak.	
CD-ROM drives	
(Back Next) Cancel	
Close Cancel	
🔒 Start 🔰 🚰 🎒 📕 Device Manager	101

- 14. Find the Intel® 82551 or Reatek® 8139CL+ driver in the Setup CD.
- 15. Press the [OK] button.

🚨 Device Manager		
Action View ← → m m m m 2 2 X		
Upgrade Device Driver Wizard	-	
Locate Driver Files     Where do you want Windows to search for driver files?		
Upgrade Device Driver Wizard		
Insert the manufacturer's installation disk into the drive     Insert the manufacturer's installation disk into the drive     OK     selected, and then click DK.     Cancel		
Copy manufacturer's files from:     E     E     E     E     E     E     E     E		
<back next=""> Cancel</back>	•	
Close Cancel ofiles		
OK Cancel Apply		
😹 Start 🔢 🥰 🖏 🔄 🖳 Device Manager		🔝 📥 10:36 PM

16. Click the [Next] button.

Device Manager	1
Action View $\leftarrow \rightarrow \implies \blacksquare \blacksquare \blacksquare \square \square$	
Elegendo Device Driver Without	I
The wizard has finished searching for driver files for your hardware device.	
The wizard found a driver for the following device:	
Ethernet Controller	
⊕	
To install the driver Windows found, click Next.	
e:\551er\net559er.inf	
	J .
Kack Next> Cancel	
Close Cancel ofiles	
OK Cancel Apply	
🗿 Start 📗 🚮 🍘 🗐 📗 Device Manager	🔯 🚭 10:36 PM

#### 17. Click [Yes] button.

🚇 Device Manager		
Action View ← → 🛍 🖬 😭 😫 🔕	8 X .	
Ethernet Controller Properties	?   ×	
Digrade Device Driver Wizard		
Hardware Install		
Digital Signature Not Four		
	The Microsoft digital signature affirms that software has been tested with Windows and that the software has not	
	been altered since it was tested.	
Installing software	The software you are about to install does not contain a	
	guarantee that this software works correctly with	
	Windows.	
	Intel(R) 8255xER PCI Adapter	
	If you want to search for Microsoft digitally signed software, visit the Windows Update Web site at	
	http://windowsupdate.microsoft.com to see if one is available	
	Do you want to continue the installation?	
	Do you want to continue the installation?	
	Yes No More Info	
Clos	e Cancel	
	ofiles	
	OK Cancel Apply	
Start 0 1 2 1		[당]콩
		100-00

18. Click [Finish] button then complete the installation.



#### **4.4 RAID Driver Installation**

CB-6970 supports RAID function in some models. Please check and install the driver follow the below procedures.

- 1. Insert the setup CD of CB-6970 into your CD-ROM drive.
- 2. Choose the Drivers file to click the Setup icon.
- 3. Click [Next] button.

My Documents					
My Computer	VIA V-Raid Driver Setup Wizard			×	
My Network Places Recycle Bin Internet Explorer	Hyperion University	Welcome to the Install W Driver Setup Program The Install Wizard will install V Program on your computer. Tr	<b>fizard for VIA V-Raid</b> IA V-Raid Driver Setup o continue, click Next.	<ul> <li>ເຊິ່ງ</li> <li>ເຊິ່ງ</li> <li>ເຊິ່ງ</li> <li>ເຊິ່ງ</li> <li>ເຊິ່ງ</li> <li>ເຊິ່ງ</li> <li>ເຊິ່ງ</li> </ul>	
	U-Version:5.2.1.13	< Back	Next > Cancel		- 1
	Type: Application	V-RAI N-RAI	/IA viasetup.dll D(V5		T
🛃 Start 🛛 🚮 🏉 🧊	VIA_RAID_V520C	VIA V-Raid Driver Setu		[ <u></u> ]	10:09 PM

4. Select <I Agree>. Click [Next] button.

My Documents			
My Computer	VIA V-Raid Driver Setup Wizard		
My Network. Places	License Agreement Please read the following license agreement carefully. Press the PAGE DOWN key to see the rest of the agreement.		- <b>D</b> ×
Recycle Bin	VIA SOFTWARE LICENSE AGREEMENT         Please read carefully before you download, install, or use any         VIA SOFTWARE.VIA SOFTWARE means the software         program you are currently trying to download, and all related         updates supplied by VIA Technologies, Inc. ("VIA").         By clicking on the "I AGREE" button, and by downloading and installing the VIA SOFTWARE, you accept all the terms and conditions of this Agreement. If you do not agree to the terms and conditions of this Agreement, do not click the "I AGREE"		 ] ∂°60 ▲
	I Agree	1	
Connect to the Internet	C I Don't Agree	ILF SETUP	
	Turne Analization Circl 212//D	http://www.iter	
		g my computer	111
🏽 🛃 Start 🛛 🚮 🈂 🖏	CIVIA_RAID_V520C	<u>[</u> ]	10:09 PM

5. Choose the components you want to install, then click the [Next] button.



6. Click the [Next] button.

My Documents	
My Computer	VIA Y-Raid Driver Setup Wizard
	Installing Components List:
	Review setting before installing components.
My Network	Set up has anough information to start installing the components. If you want to review or
Places	change any settings, click Back. If you are satisfied with the settings, click Next to begin
<b></b>	installing components.
	Current setting: 📉 🖂 🥅 🗰 🗸
Recycle Bin	VIA V-RAID Driver 5.2c:
	VIA VT8237/R/A, VT8251 RAID Driver
	VIA RAID Config Utility 5.27:
	VIA RAID Config and Monitor Utility
Internet	e SETUP
Explorer	
Connect to	
the Internet	InstallShield
	Course Newton Coursel
	< back Next> Lancel
	VIA viasetup.dli
	V-RAID(V5
	Type: Application Size: 212 KB 212 KB 212 KB 212 KB
🏽 🛃 Start	□ CIA_RAID_V520C VIA_RAID_V520C 20:10 PM

7. Click the [Yes] button.

My Documents			
My Computer	ionstiwe Net Found	XI	
My Network Places Recycle Bin Internet Explorer	The Microsoft digital signature affirms that software has been tested with Windows and that the software has no been altered since it was tested.     The software you are about to install does not contain a guarantee that this software works correctly with Windows.     VIA SATA RAID Controller     If you want to search for Microsoft digitally signed software, visit the Windows Update Web site at http://windowsupdate.microsoft.com to see if one is available.     Do you want to continue the installation?	A	× × - × - × - × - ×
Connect to the Internet	Yes No More Info		
	Attributes: Read-only VIA VIA V-RAID(V5 viasetup.dll		
	Type: Application Size: 212 KB 212 KB	3 📃 My Computer	li
🔀 Start 🛛 🛃 🍪 🖏 🗍 🔄 VIA_RAID_V	V520C V520C V520C	<u></u>	10:11 PM

8. Click the [Next] button

My Documents		
My Computer	VIA V-Raid Driver Setup Wizard	
	Installing Status: Following information to show installing status.	
My Network Places	The following information will tell you whether or not the components are installed successfully	×
1	Current result:	1
Recycle Bin	SETUP LOG: DATE 1-21-2003 TIME 22:12:33 Installed components : VIA V-RAID Driver 5.2c VIA RAID Config Utility 5.27	> •
Internet Explorer	Fail to Installed components : None e SETUP	
Connect to the Internet		
	< Back. Next > Cancel	
	VIA viasetup.dll V-RAID(V5	•
	Type: Application Size: 212 KB 212 KB 🖳 My Computer	//.
🏽 🕄 🍪 🛐	☐ VIA_RAID_V520C 2011 VIA V-Raid Driver Setu 30 10:12 F	M

9. Click the [Finish] button to complete the installation.



#### 4.5 VGA Driver Installation

CB-6970 supports VGA display controlled by VIA/S3G Unichrome chipset. Please install the driver follow the below procedures.

- 1. Insert the setup CD of CB-6970 into your CD-ROM drive.
- 2. Choose the Drivers file to click the Setup icon.



3. Follow the onscreen instruction to finish the driver installation in sequence.



#### Appendix A: Programming the Watchdog Timer

The CB-6970 provides a watchdog timer that resets the CPU or generates an interrupt if processing comes to a stop. This function ensures greater system reliability in industrial stand-alone and unmanned environments.

In order to enable the watchdog timer, you have to output the value of the watchdog timer interval to the controller. The value range is from 01H to FFH, and the related time watchdog timer interval is 1 sec to 255 sec.

Data	Timer interval	
00	Disabled	
01	1 sec	
02	2 sec	
*	*	
*	*	
FF	255 sec	

If you want to disable the watchdog timer, just set the timer interval value to 00H.

After setting the timer interval value, the watchdog timer begins to count down. You have to refresh the watchdog timer, so that the watchdog timer will return to its initial value; otherwise, your system will reset after a time-out. The following program shows how to set the watchdog timer:

ASSEMBLY LANGUAGE	DOS DEBUG			
Program 1: Initializing the watchdog controller				
MOV DX,2EH	O 2E 87			
MOV AL,87H	O 2E 87			
OUT DX,AL				
OUT DX,AL				
MOV AL,07H	O 2E 07			
OUT DX,AL	O 2F 08			
MOV DX,2FH				
MOV AL,08H				
OUT DX,AL				
Program 2: Writing a watchdog timer interval value				
MOV DX,2EH	O 2E F6			
MOV AL,F6H	O 2F XX			
OUT DX,AL	O 2E AA			

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MOV DX,2FH MOV AL,XXH ; Timer interval \*\*\* see note \*\*\* OUT DX,AL MOV DX,2EH MOV AL,AAH OUT DX,AL

Note: This XX value range is from 01H to FFH, and the related watchdog timer interval is 1 sec. to 255 sec. (as in the previous description).

#### Using the Demo Program

Update the System BIOS as follows:

- 1. Run Program 1
- 2. Run Program 2 (load the timer interval of 1EH, 30 seconds)
- 3. Run your Application Program #1 (Be sure your Application Program will finish within 30 seconds)
- 4. Run Program 1
- 5. Run Program 2 (change the timer interval value to 3CH, 60 seconds)
- 6. Run your Application Program#2 (**Be sure your Application Program will be finished within 60 seconds**)
- 7. Run Program 1
- 8. Run Program 2 (reload the timer interval value of 3CH, 60 seconds)
- 9. Run Program 1

Run Program 3 (Load the timer interval of 00H, and disable the watchdog timer function)

#### Appendix B: Optional LAN Module

The CB-6970 can support additional two LAN ports via an optional Mini PCI LAN module. With the LAN module equipped, CB-6970 can support six 10/100Mbps LAN in total.

Part No.	Description	
R-050A	Mini PCI module with two 10/100Mbps interface	
R-051A	Module with two RJ45 connectors	

#### Appendix C: Optional Cable List

The CB-6970 is equipped with some cables for testing, verification, etc.

Part No.	ltem	Connector	Description
46-ATA660-00	IDE Cable	IDE 1	2.54mm, 46cm, ATA-66/100
46-I001X4-00	IDE Power Cable	CN15	2.54mm, 3cm, 4 pin power cable
46-IUSB01-00	USB Cable	CN11	25cm
46-ICOM04-00	COM Port Cable	CN10	22cm, D-Sub 9, 2*5
46-IPS200-00	KB/MS Cable	CN13	15cm
46-IVGA01-00	VGA Cable	CN12	2.00mm, D-Sub VGA Cable